

FIG. 1

FIG. 2 is a block diagram of a system for transmitting data over a channel. The system includes a data source 200, a processor 210, and a channel 220. The data source 200 provides data to the processor 210, which then transmits the data to the channel 220. The processor 210 is configured to perform a bin IFFT operation on the data received from the data source 200. The channel 220 is configured to receive the data from the processor 210 and transmit it to a destination. The system is designed to efficiently transmit data over a channel with varying signal-to-noise ratios (SNR).

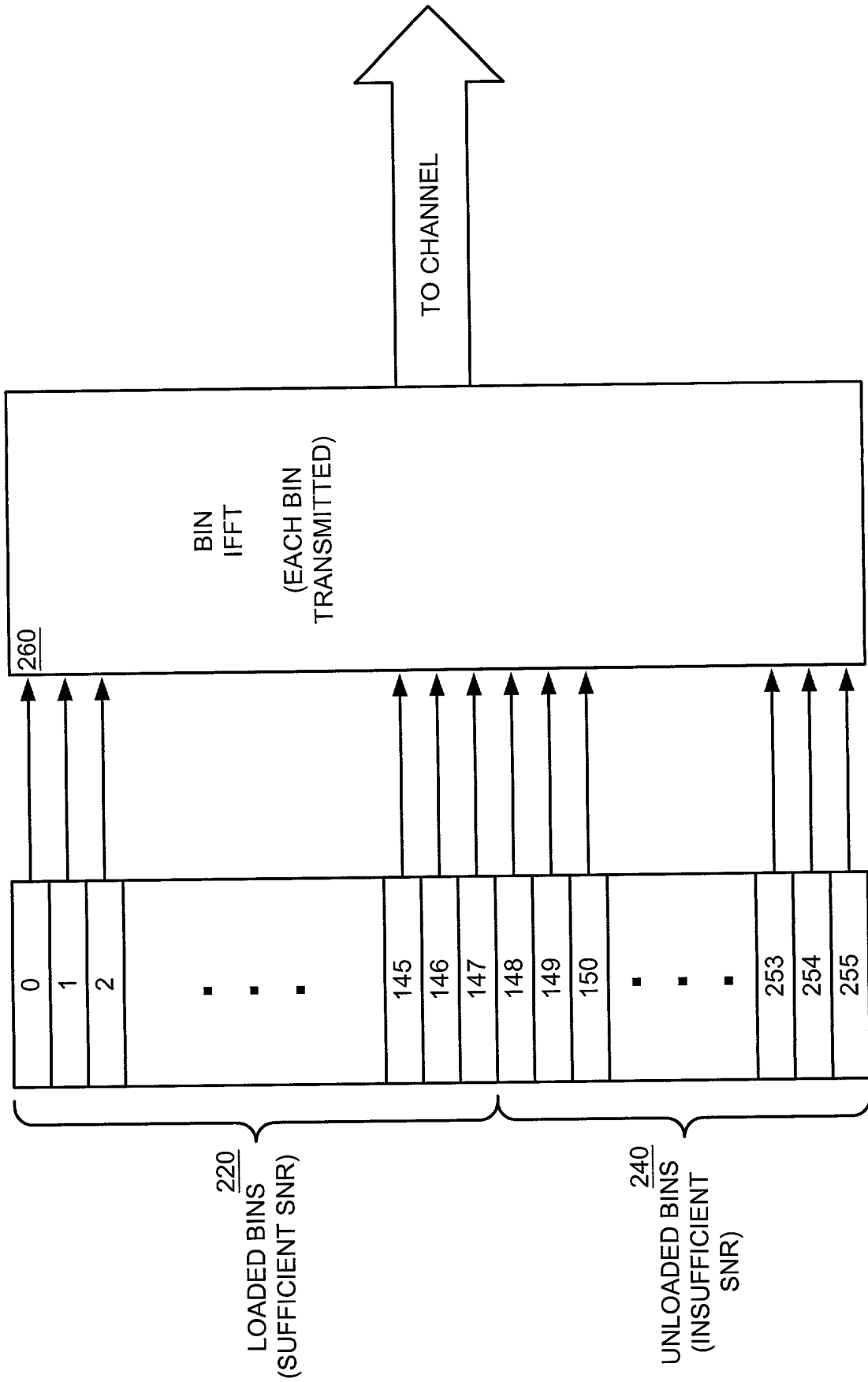


FIG. 2
(PRIOR ART)

FIG. 3 is a graph showing the relationship between the rate of data transmission and the reach of the data transmission system. The rate of data transmission is measured in units of 10⁶ bits per second (BPS), and the reach is measured in units of 10³ feet. The graph shows three curves: a solid line (310), a dashed line (320), and a dotted line (330). The solid line (310) shows the highest rate of data transmission for a given reach, while the dashed line (320) and dotted line (330) show lower rates. The solid line (310) also shows a peak in rate at a reach of approximately 15,000 feet, while the dashed line (320) and dotted line (330) show a peak at a reach of approximately 20,000 feet.

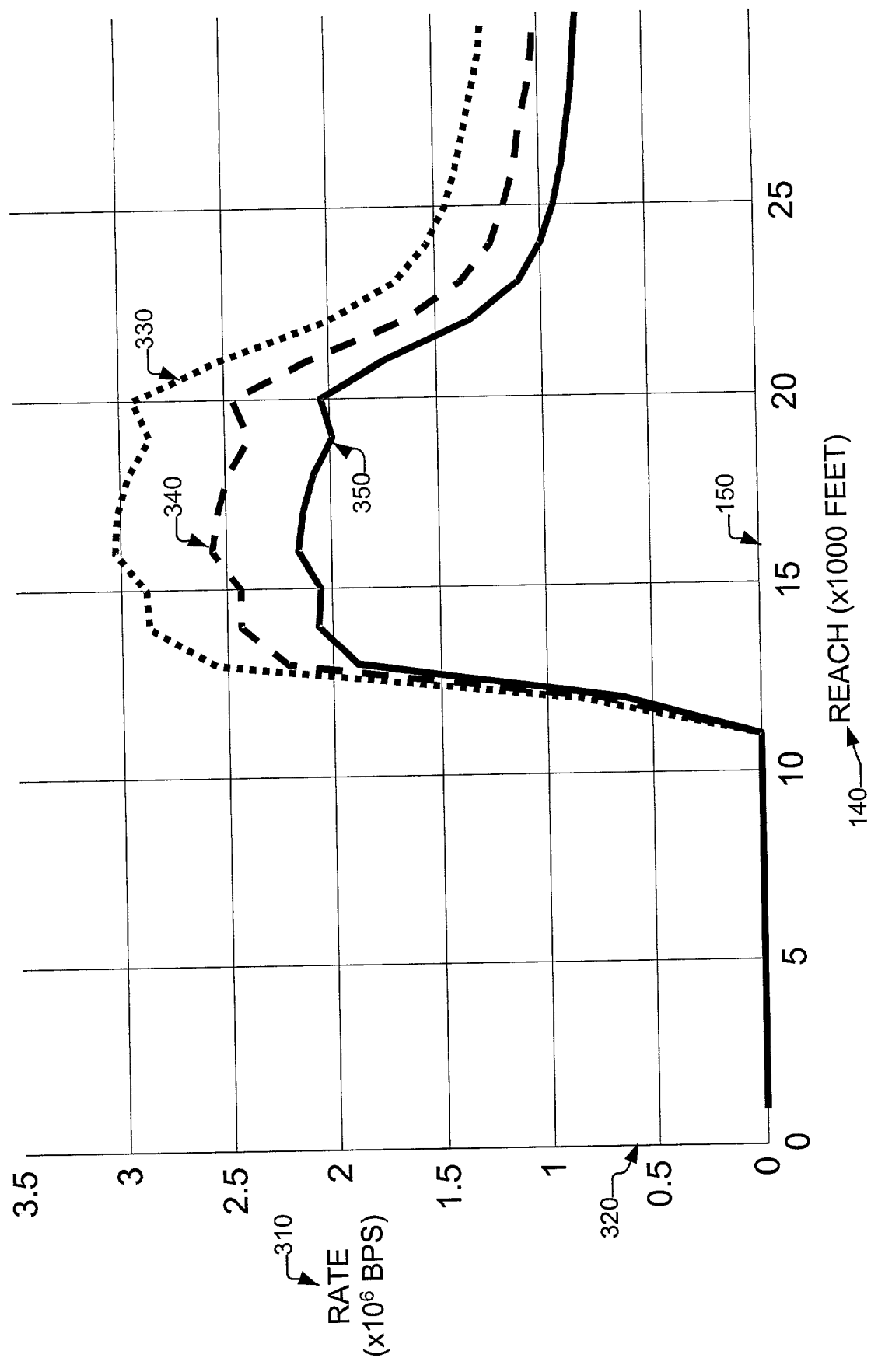


FIG. 3

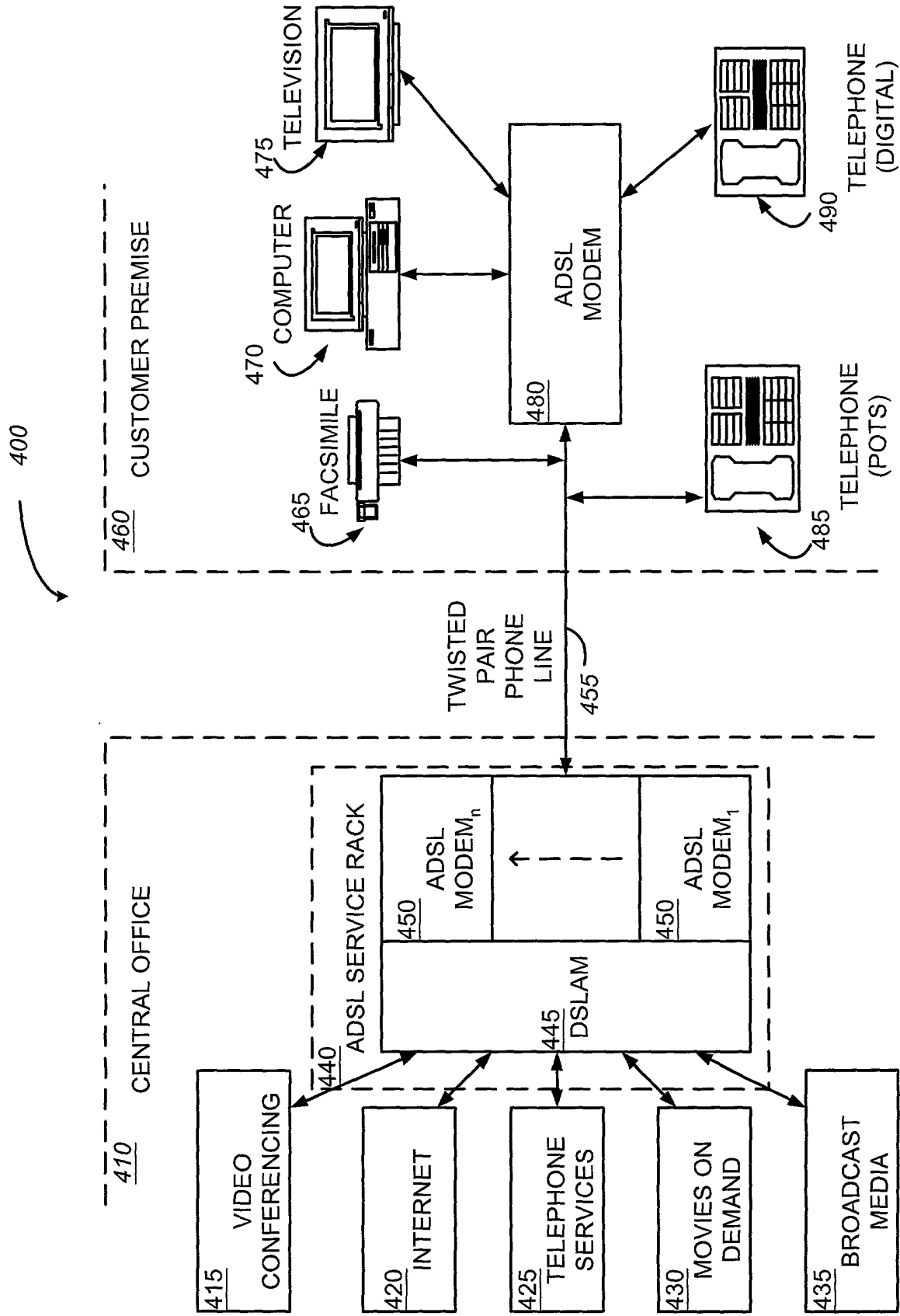


FIG. 4

500

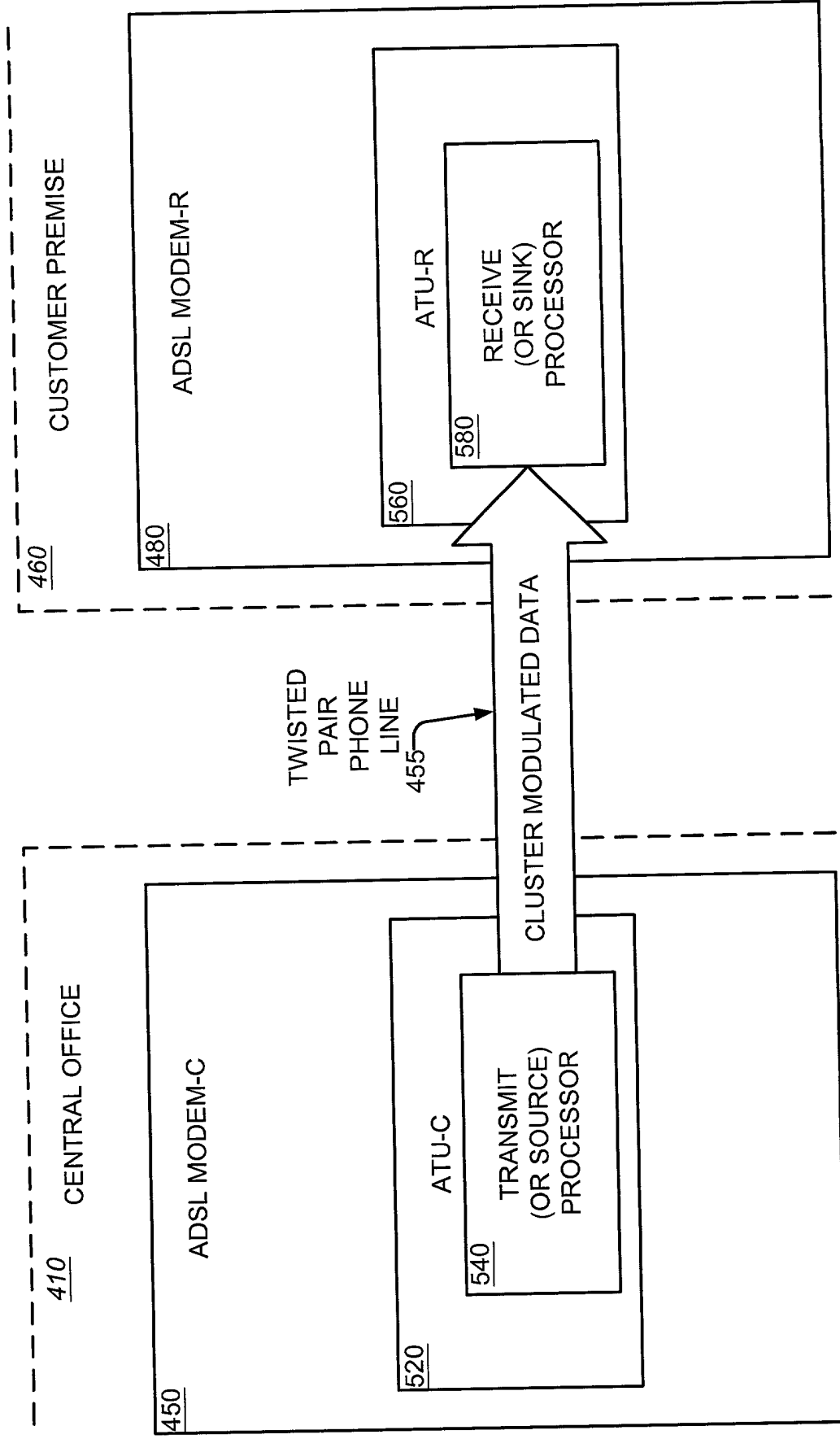


FIG. 5

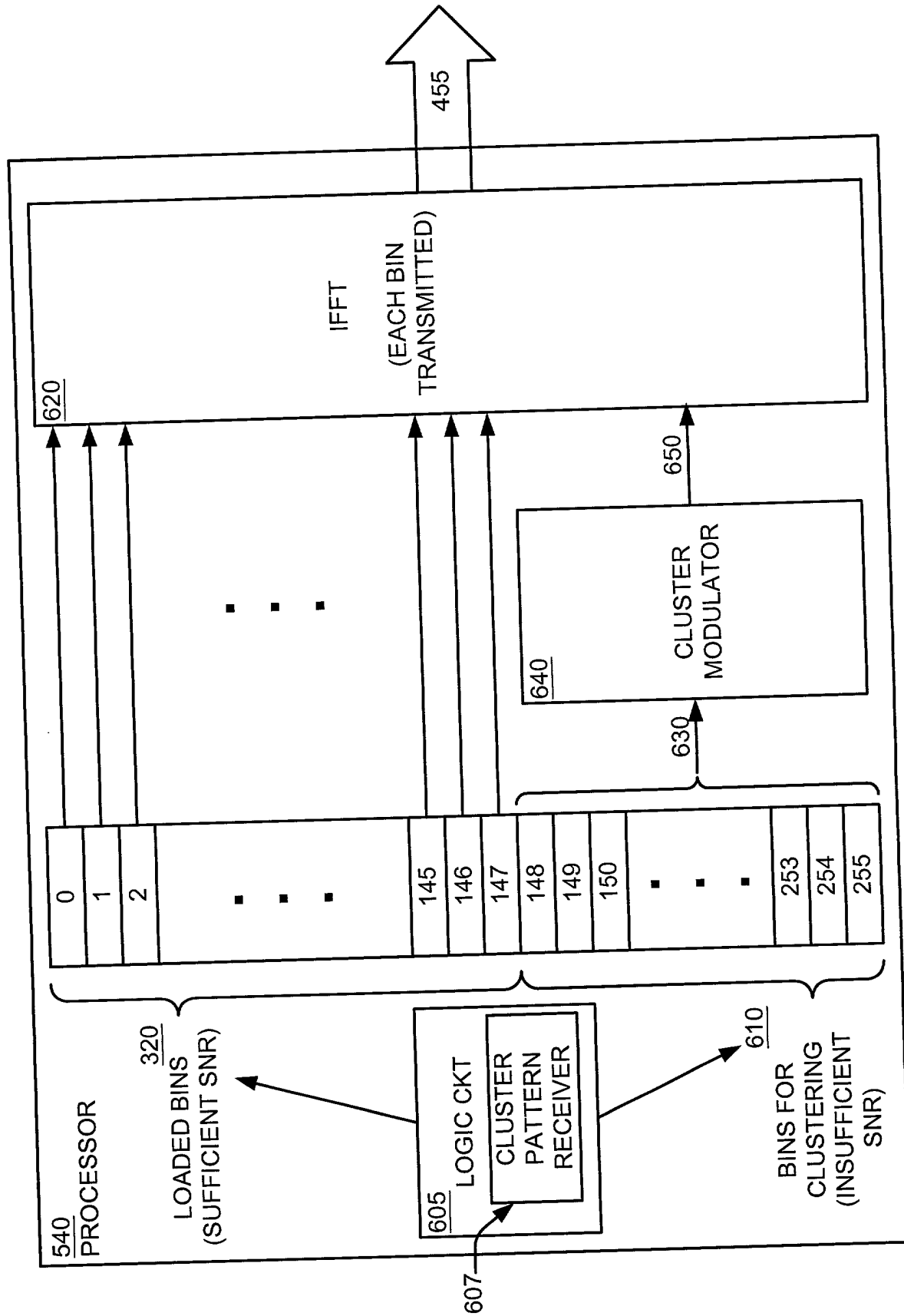


FIG. 6A

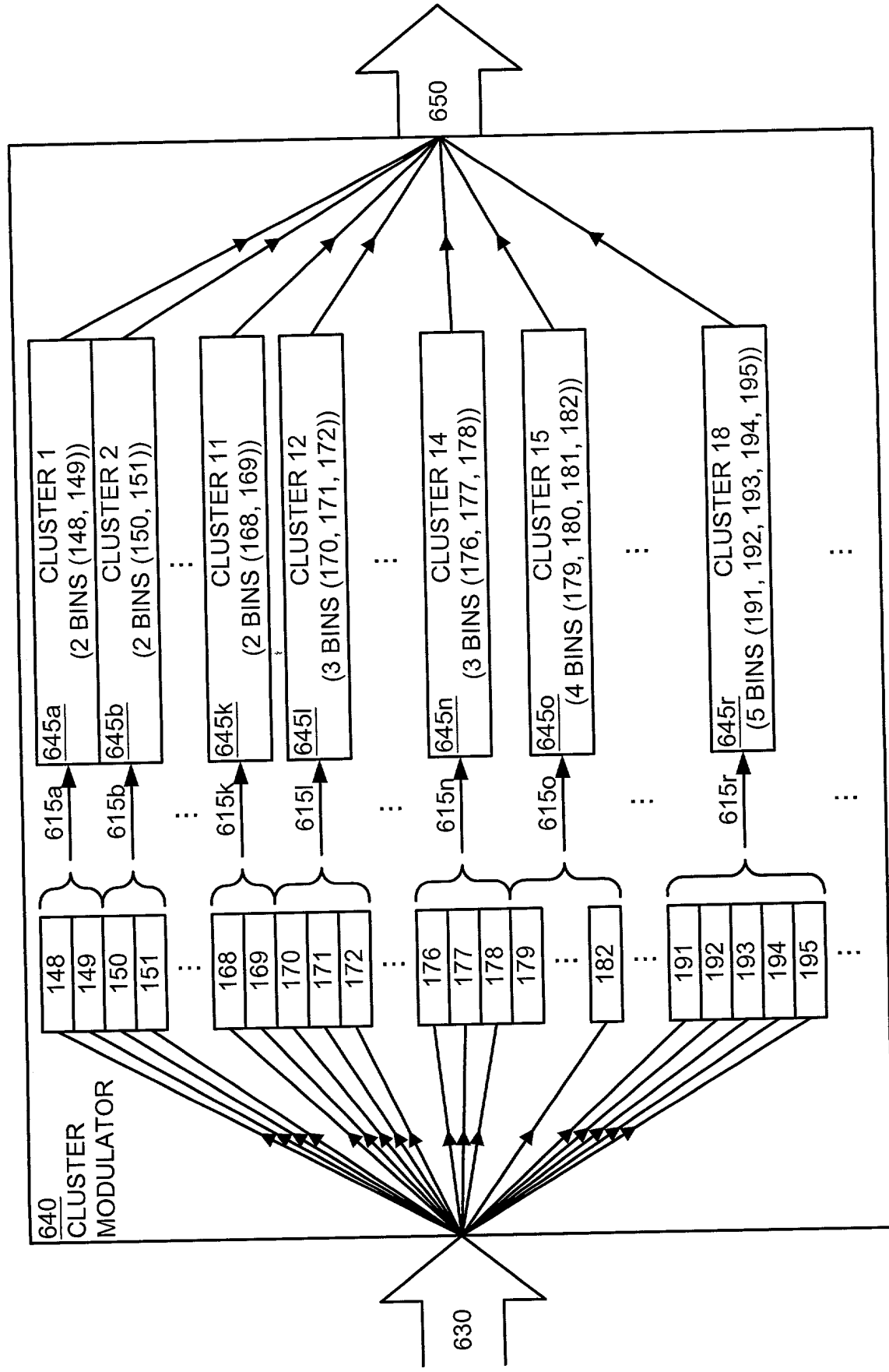


FIG. 6B

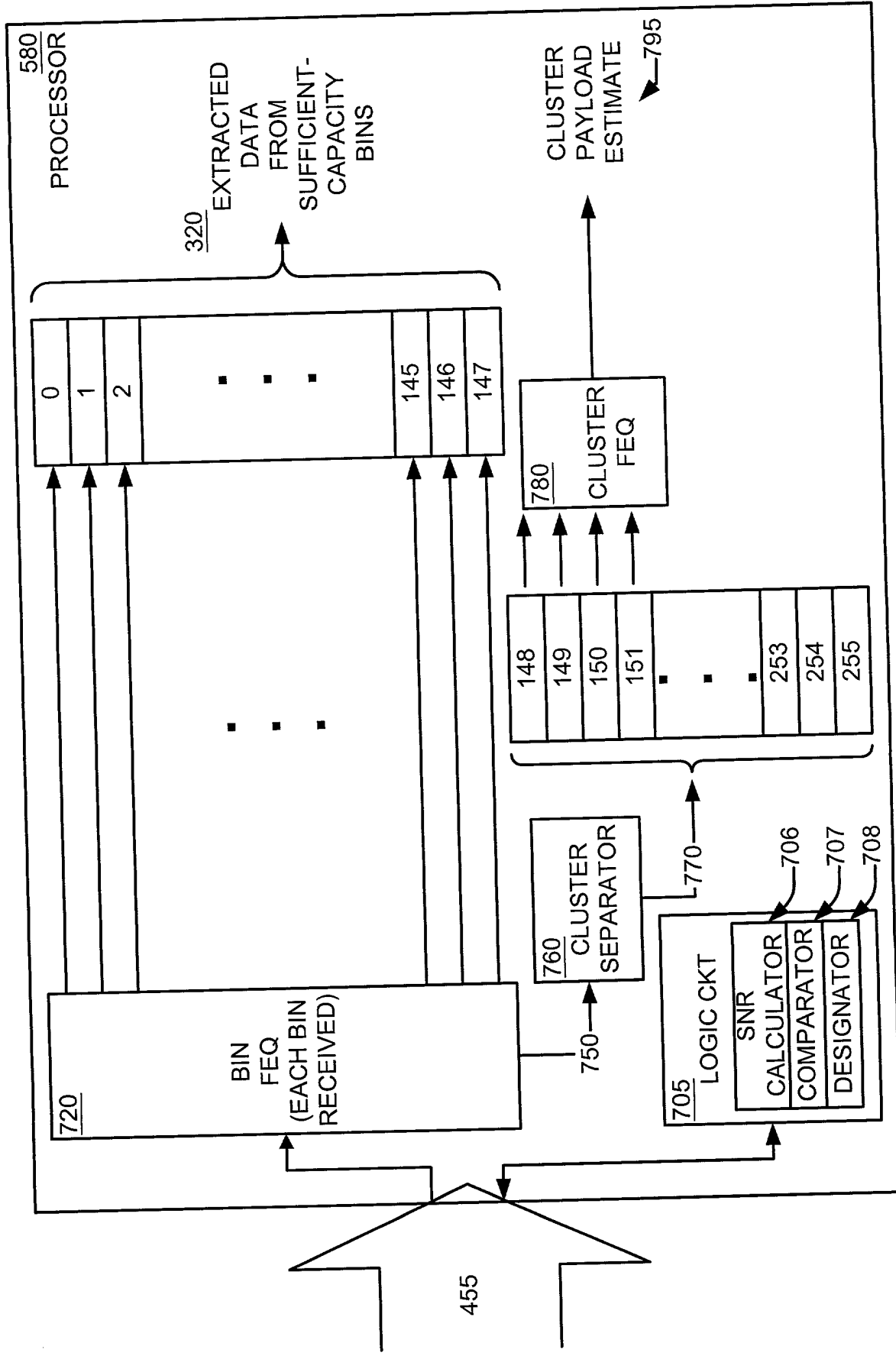


FIG. 7A

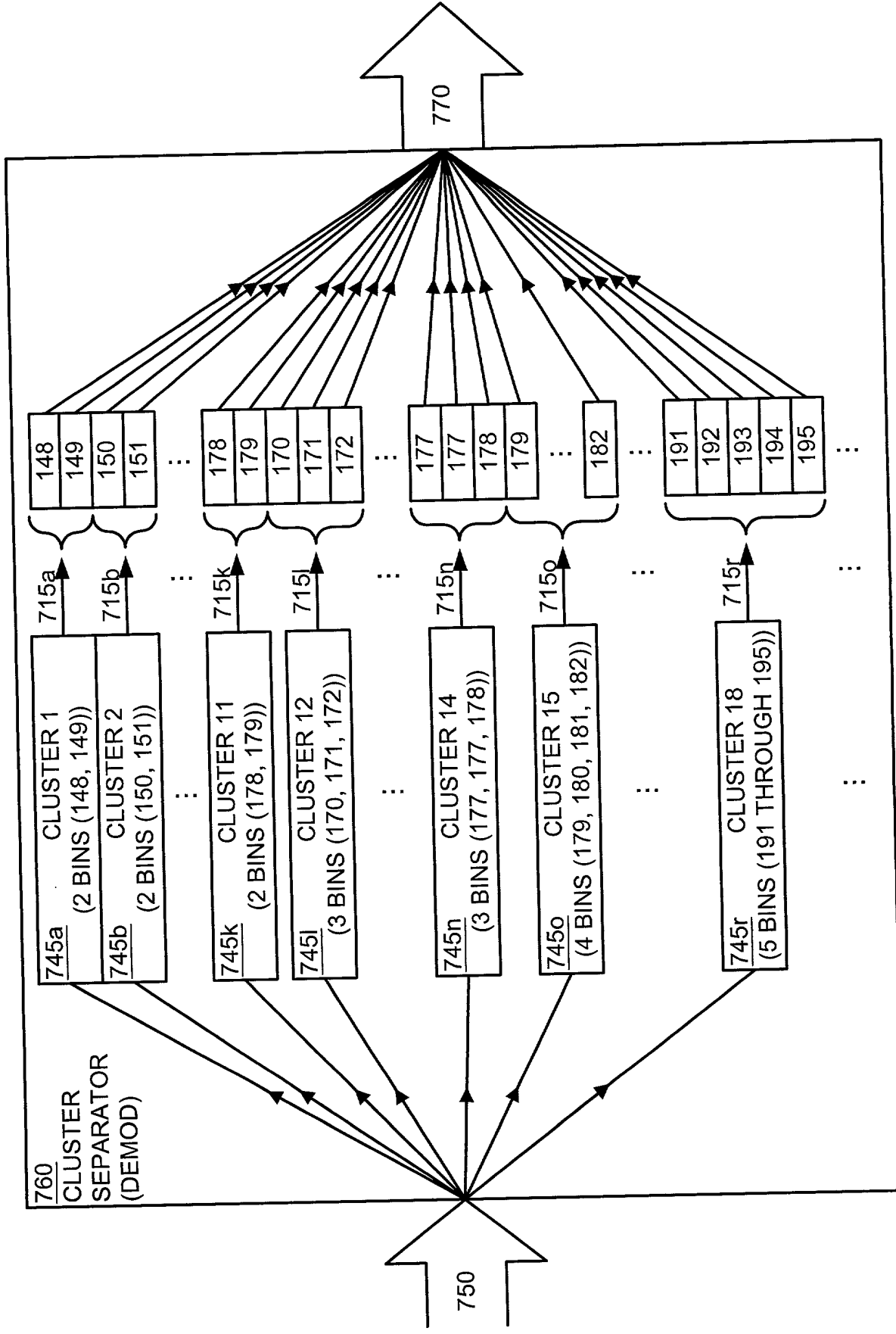


FIG. 7B

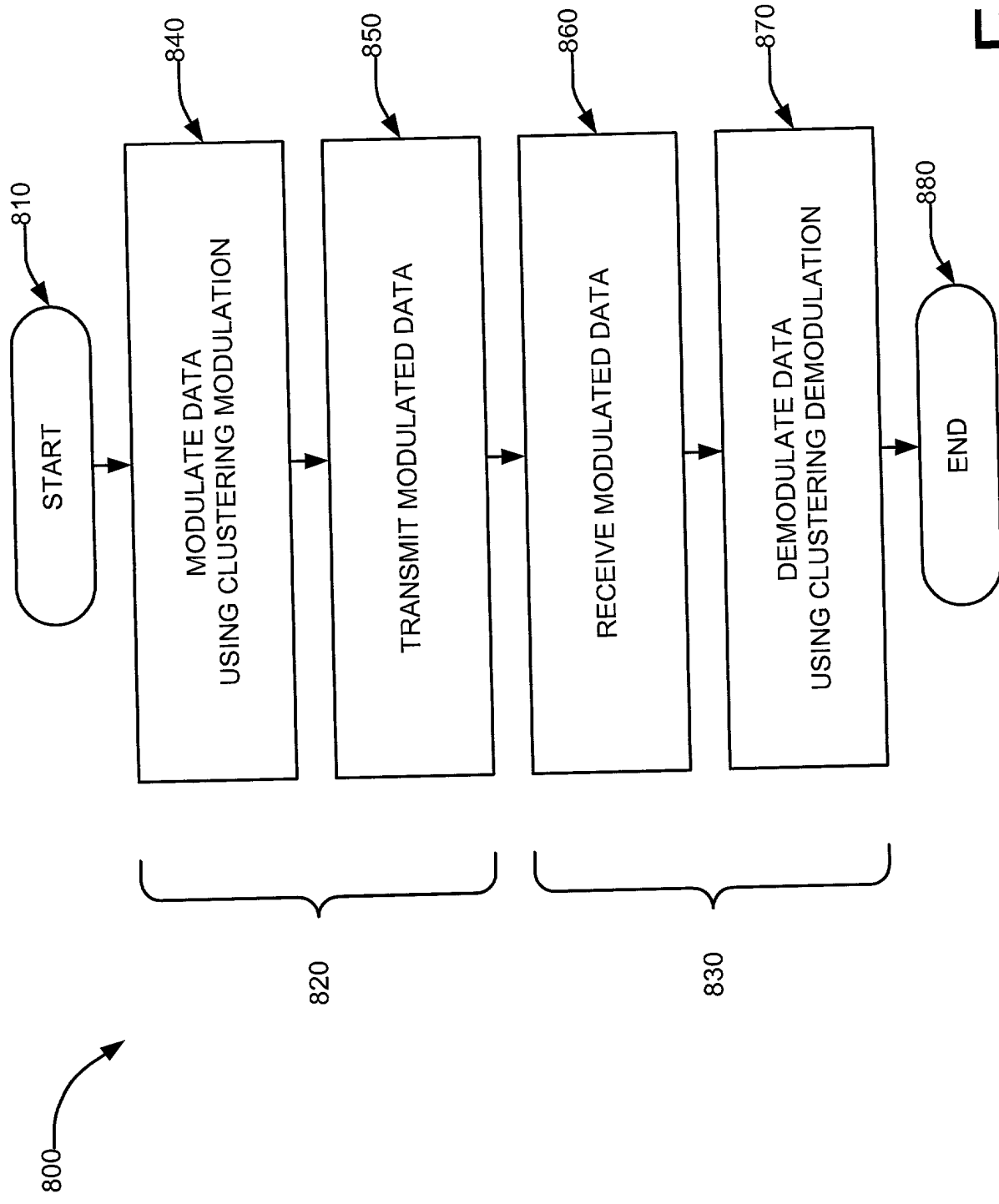


FIG. 8

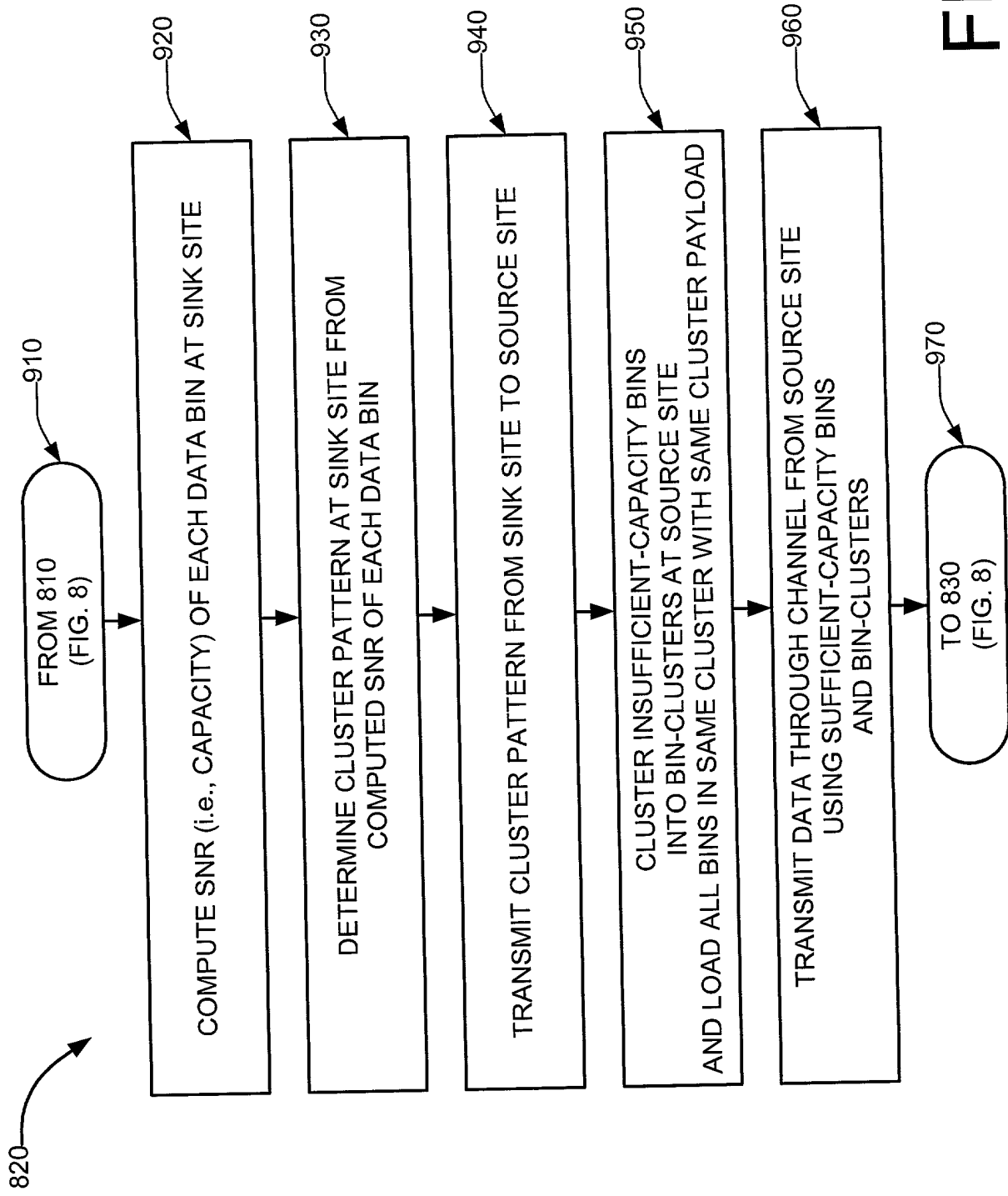


FIG. 9

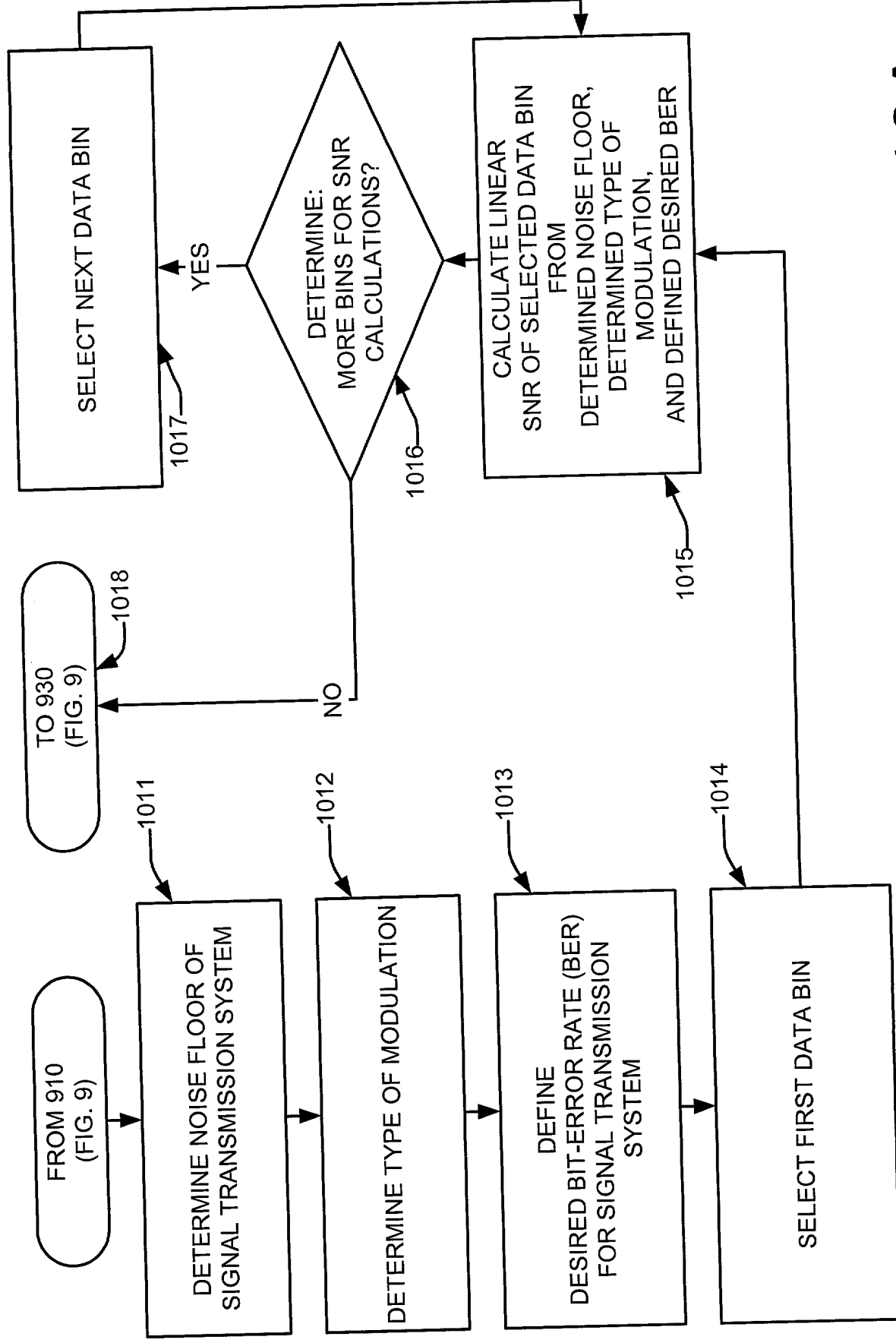
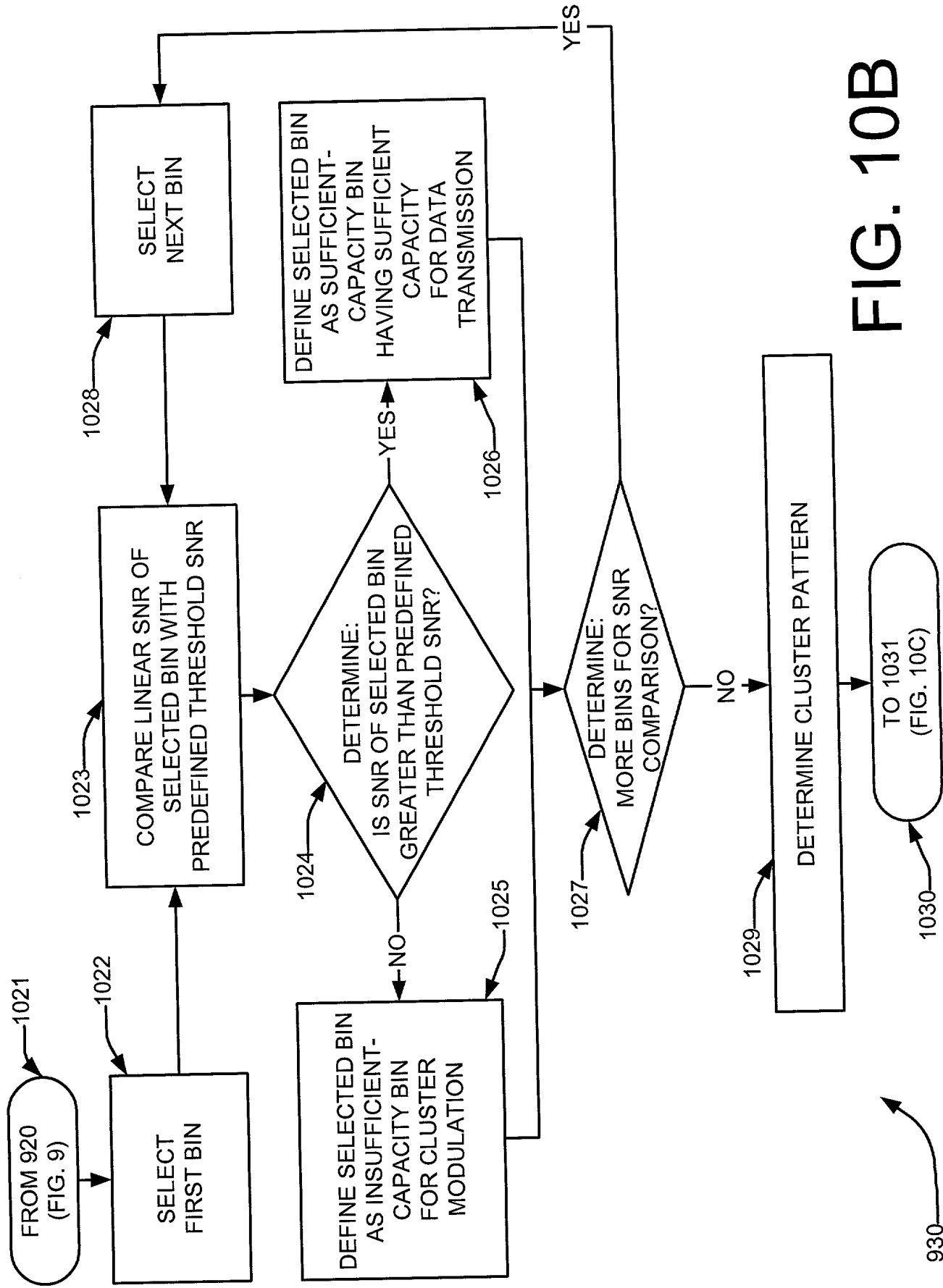


FIG. 10A



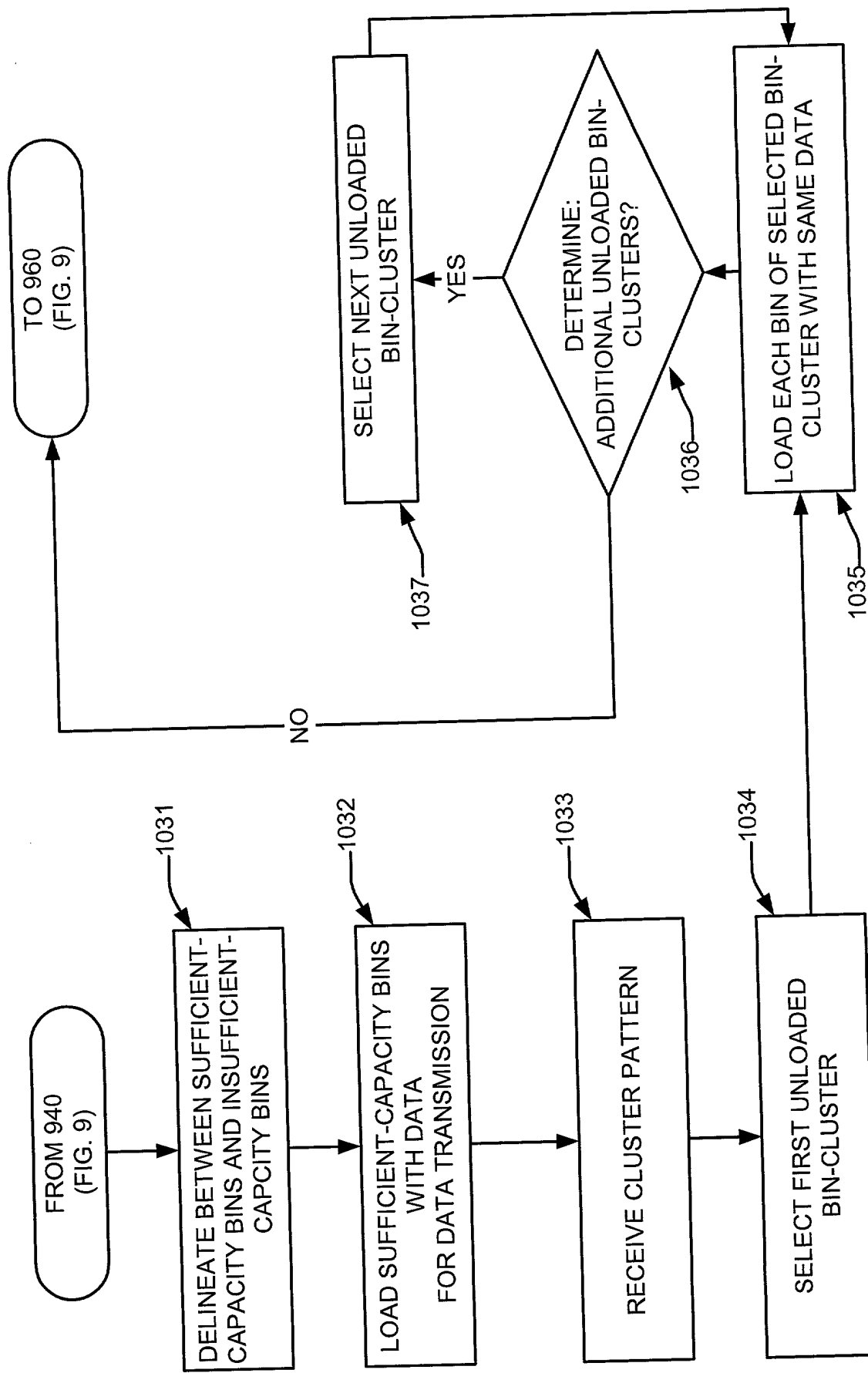


FIG. 10C

950

1029

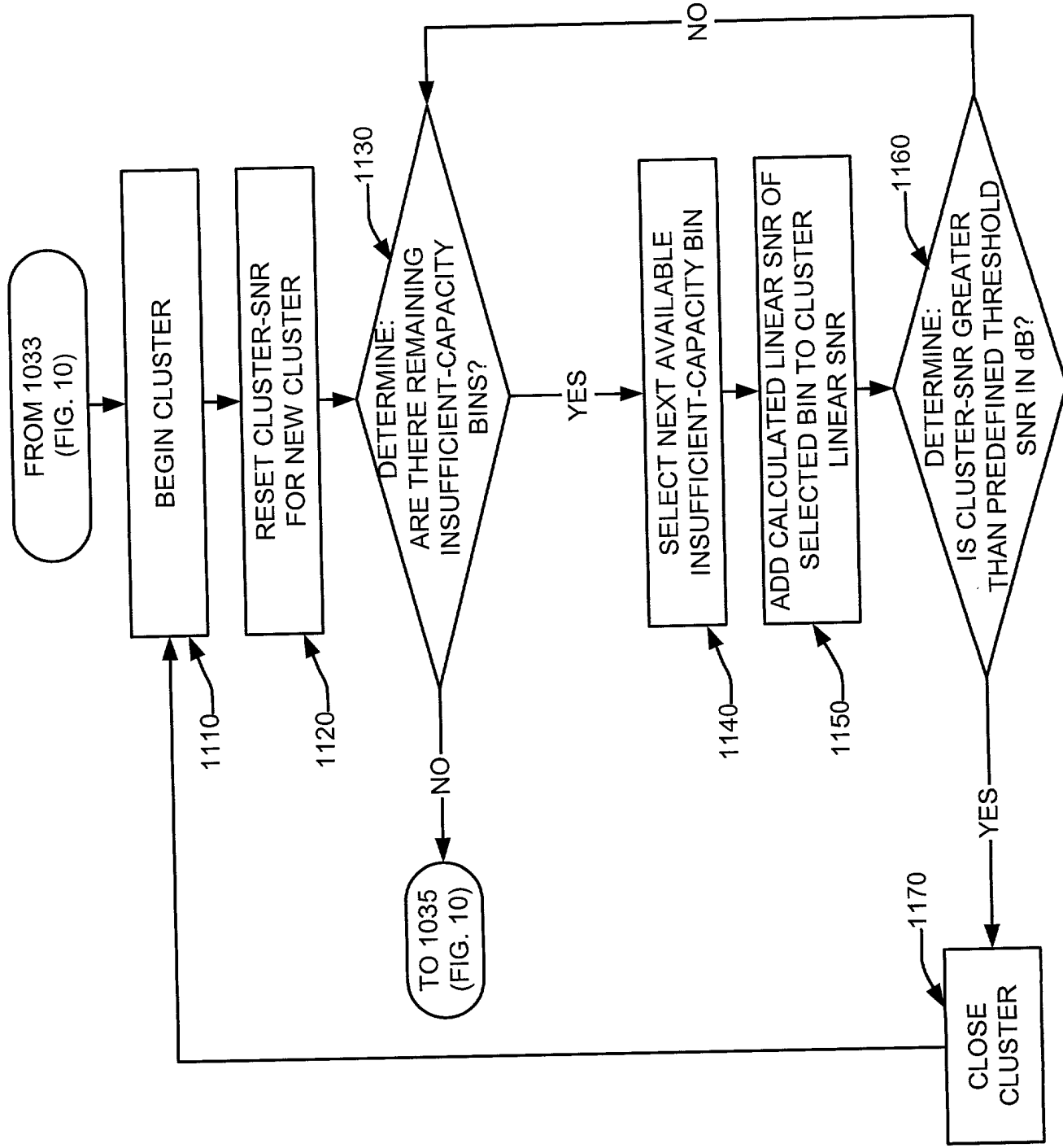


FIG. 11

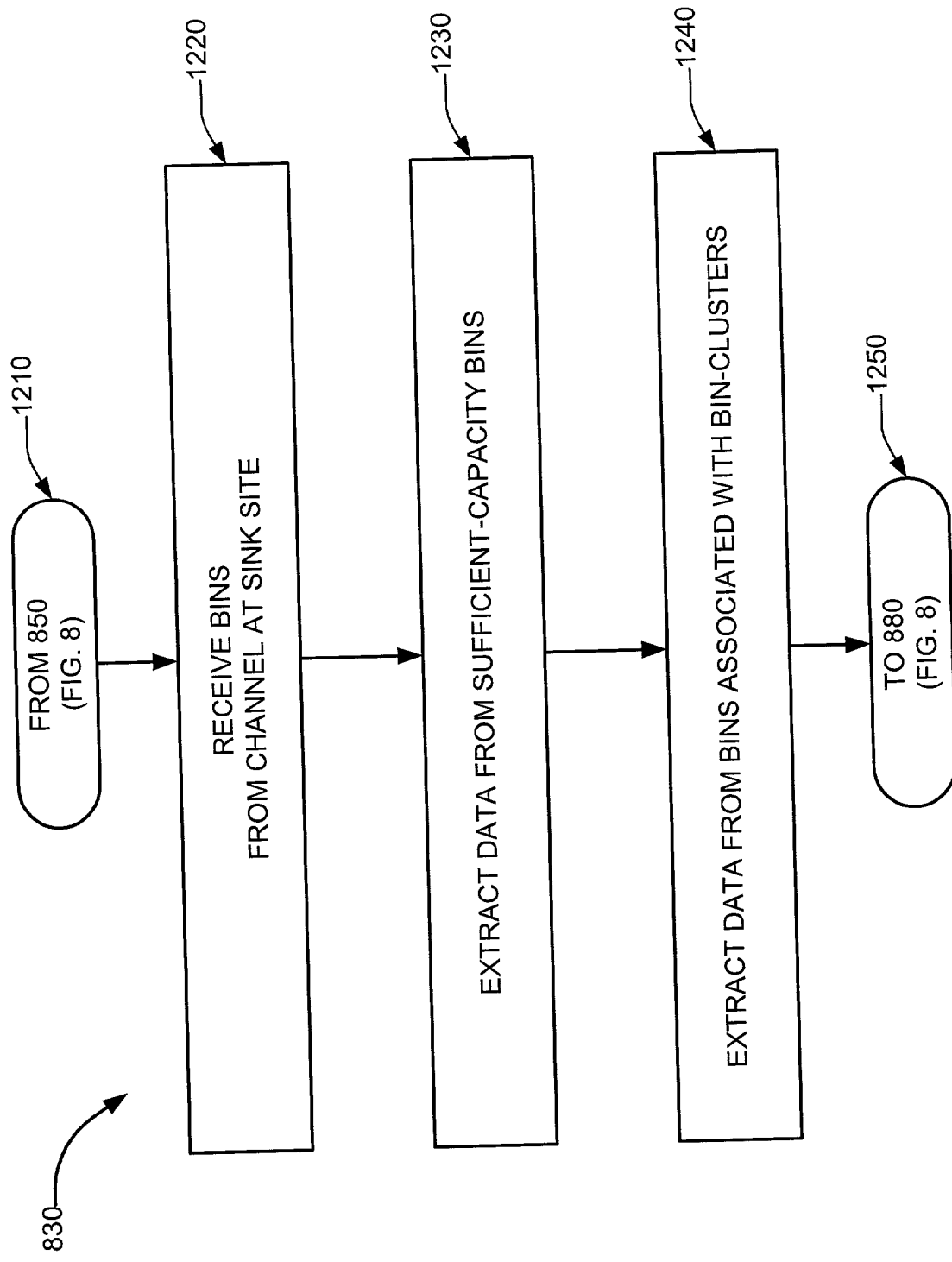


FIG. 12

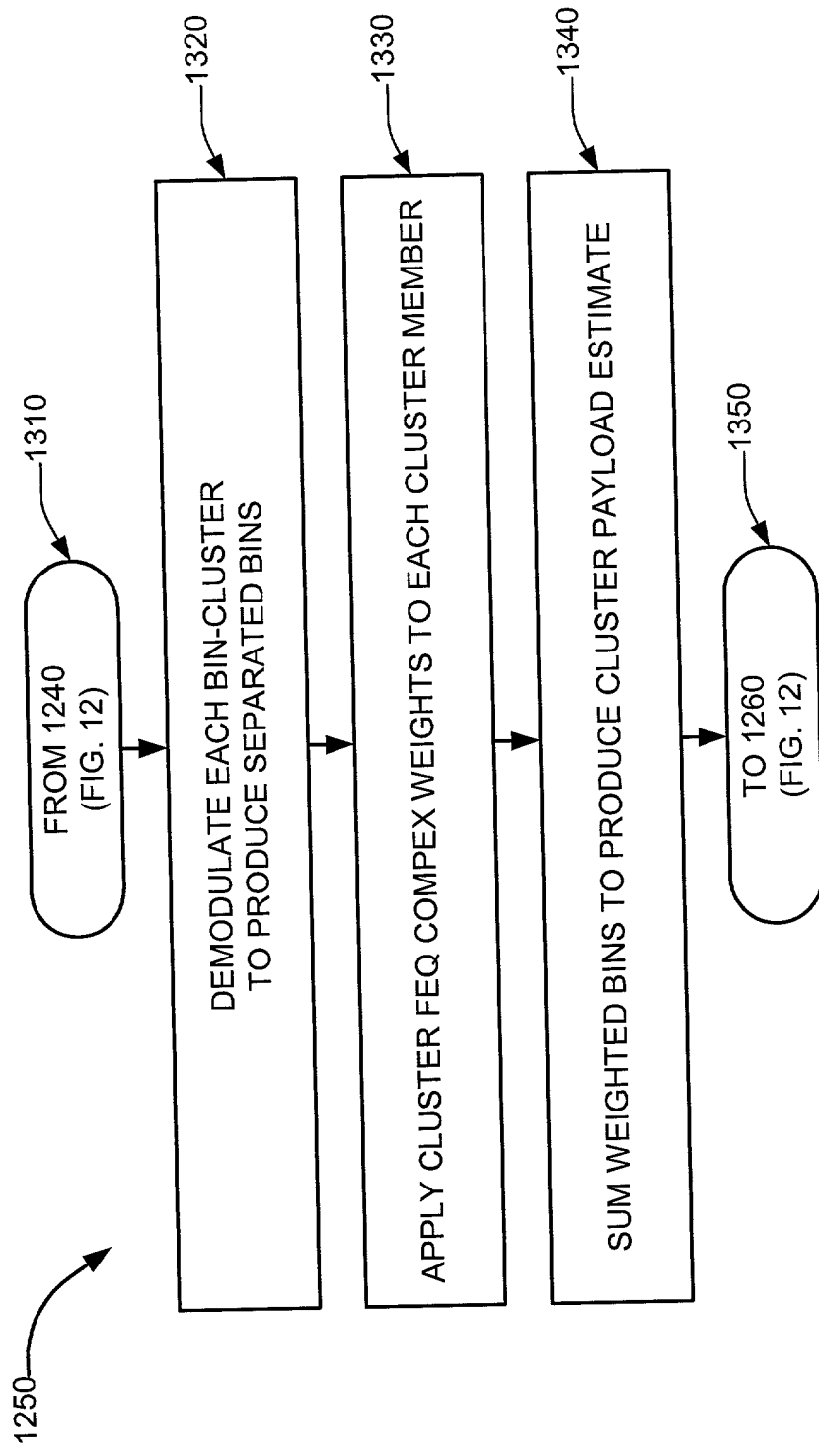


FIG. 13

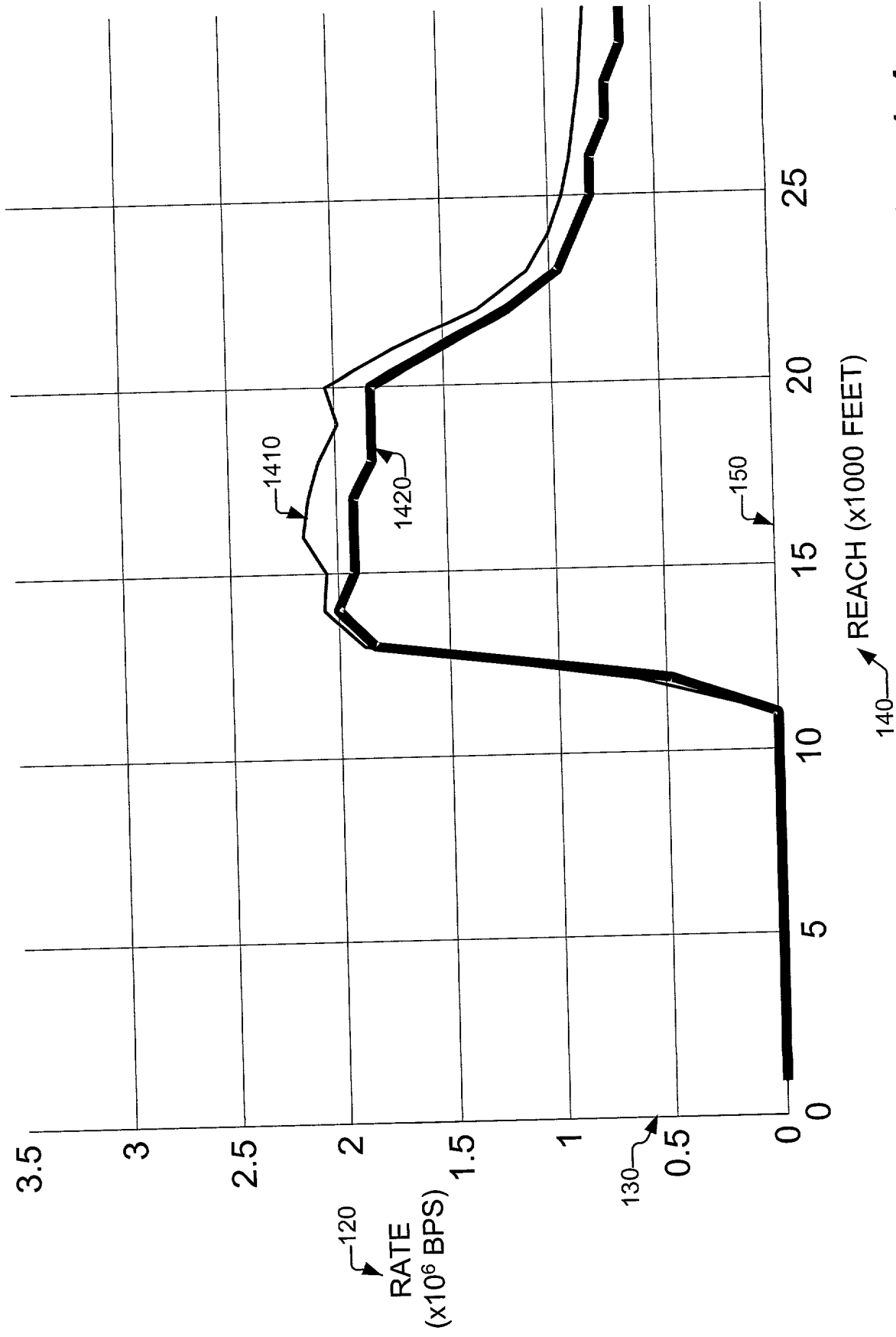


FIG. 14

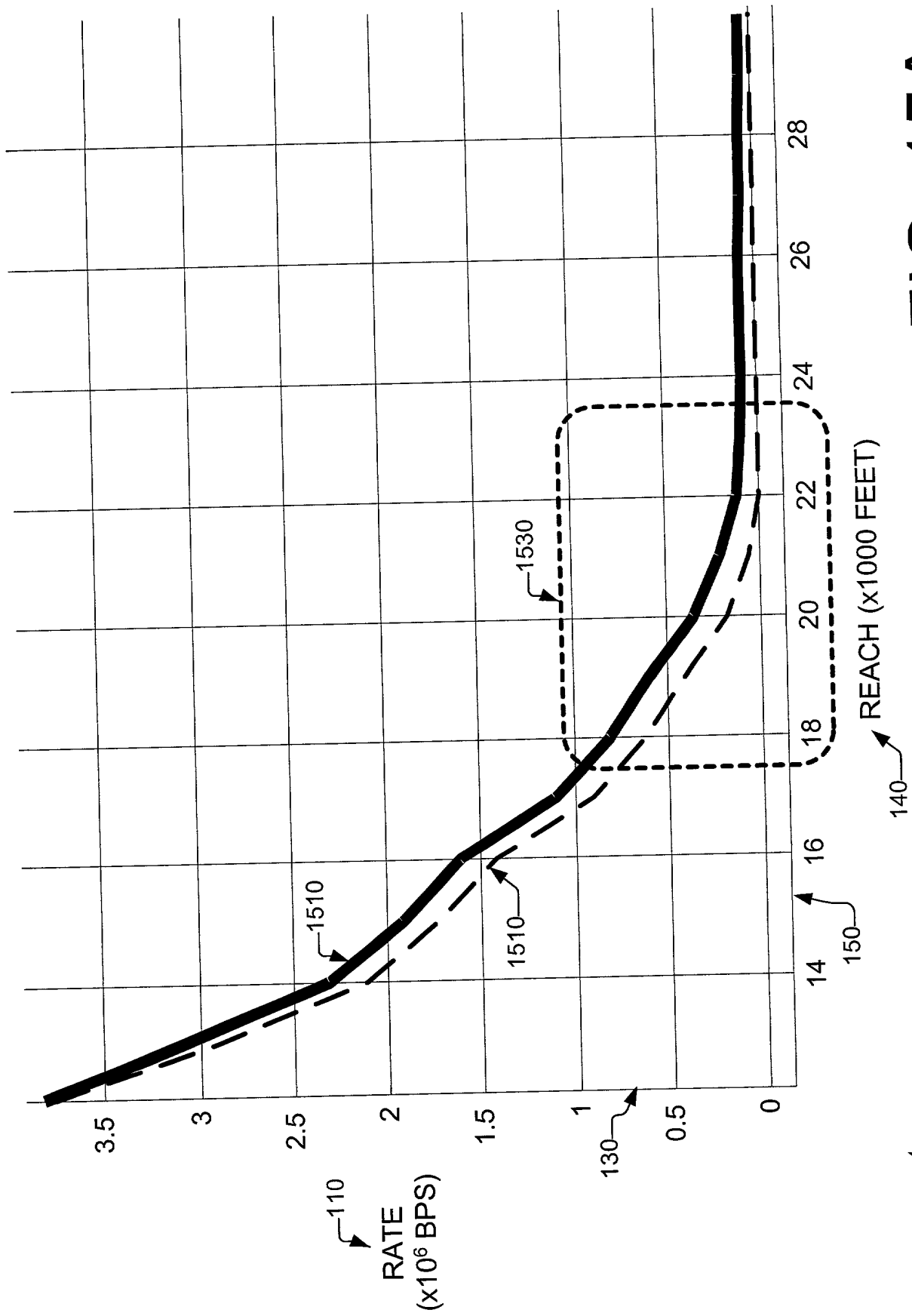


FIG. 15A

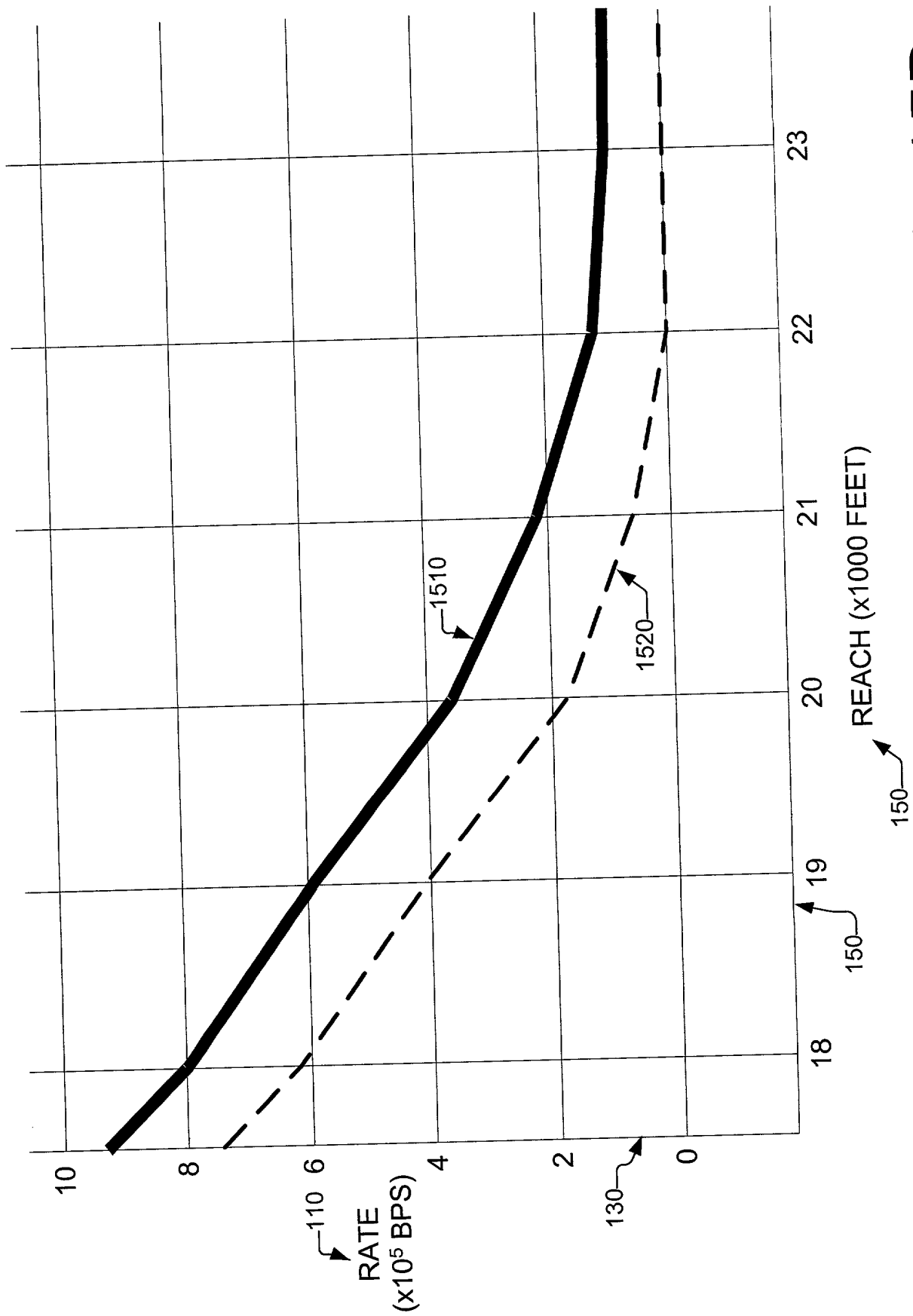


FIG. 15B

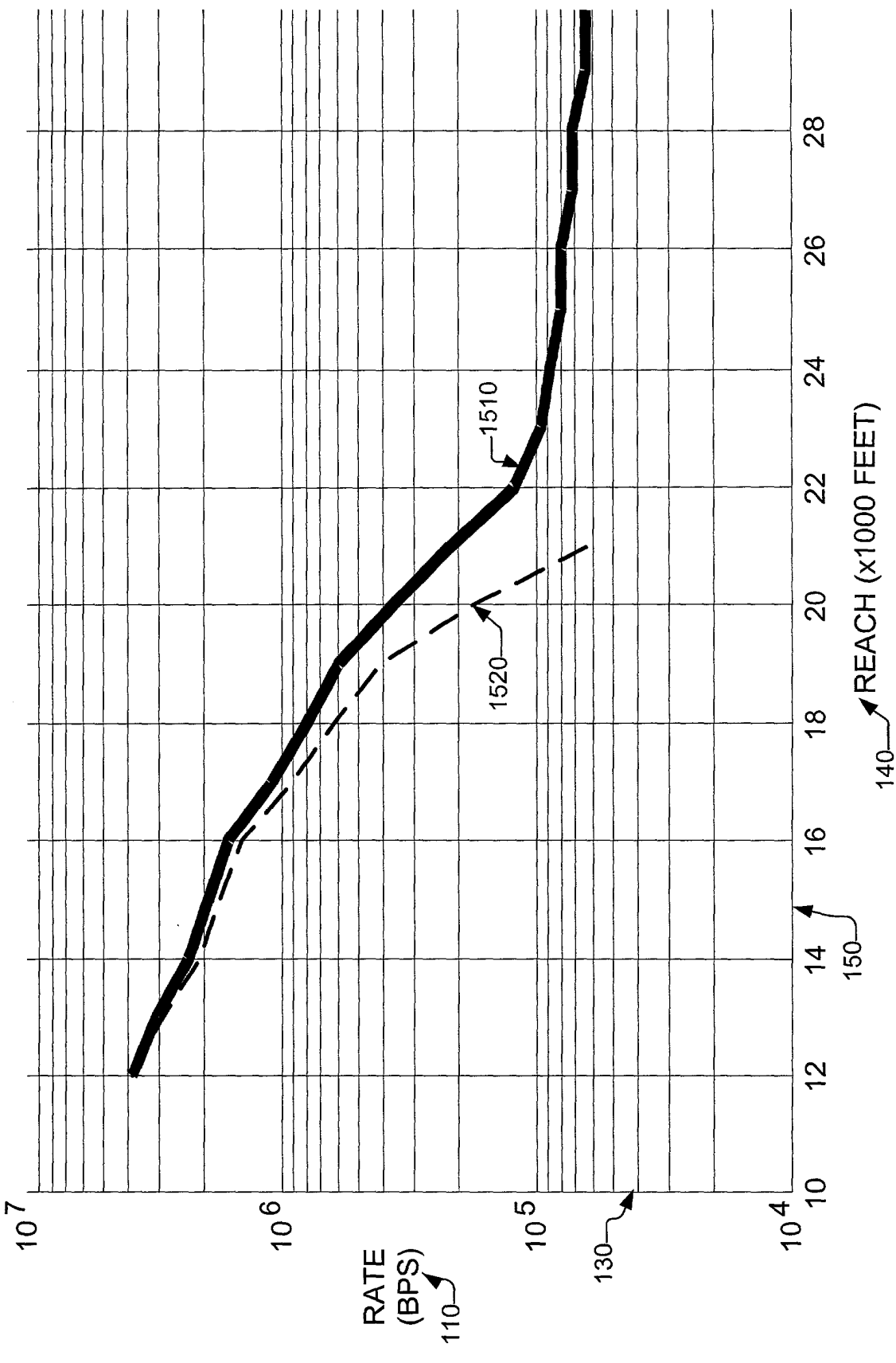


FIG. 15C